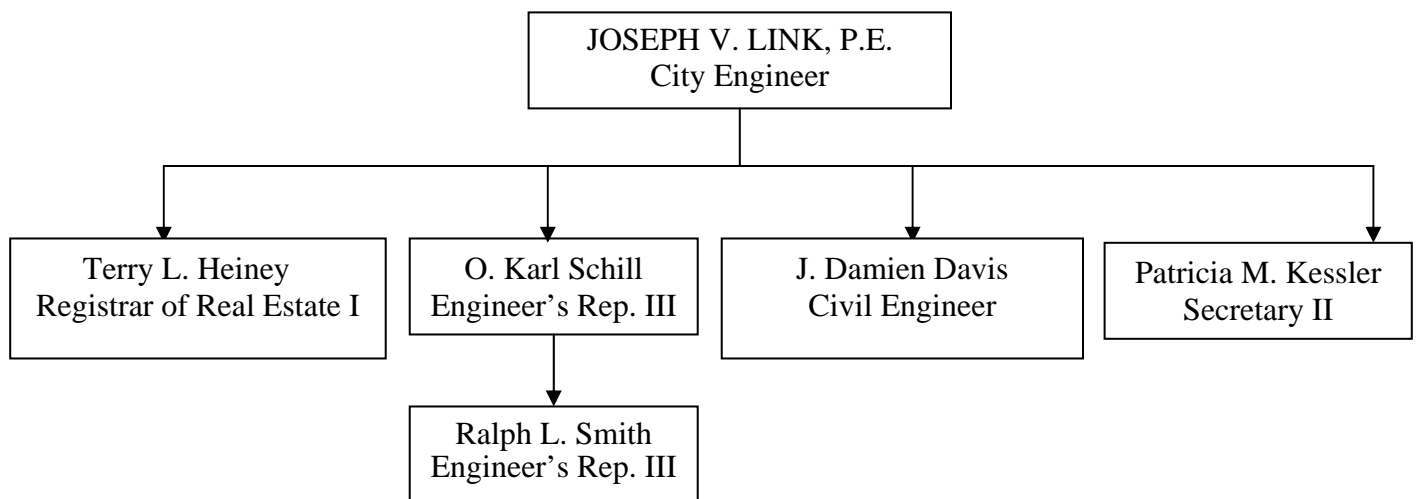


CITY OF HARRISBURG

DEPARTMENT OF GENERAL GOVERNMENT OFFICE OF THE CITY ENGINEER

2005 PERSONNEL DIRECTORY



EMPLOYEE	POSITION	DATE OF EMPLOYMENT
Joseph. V. Link, P.E.	City Engineer	01/06/92
J. Damien Davis	Civil Engineer	11/24/03
Terry L. Heiney	Registrar of Real Estate I	04/09/01
O. Karl Schill	Engineer's Representative III	11/04/85
Ralph L. Smith	Engineer's Representative III	01/19/93
Patricia M. Kessler	Secretary II	06/23/80

EXPENDITURE ANALYSIS DETAIL
2005 BUDGET

General Fund

0107 City Engineer's Office

Allocation Plan		Position Control		
		JOB CLASSIFICATION	2005 BUDGET	ALLOCATION
PERSONNEL SERVICES				
Salaries-Mgmt	117,630	City Engineer	1	82,000
Salaries-BU	77,066	Civil Engineer	1	35,630
Fringe Benefits	57,789			
		Total Management	2	117,630
TOTAL	252,485			
		Engineer's Rep. III	1	41,636
		Reg. of Real Estate III	1	35,430
OPERATING EXPENSES		Total Bargaining Unit	2	77,066
Communications	2,550			
Professional Svs.	0			
Utilities	450,872			
Insurance	0			
Rentals	0			
Maint & Rep.	239,400	FICA		14,894
Contracted Services	30,015	Healthcare Benefits-Active		33,654
Supplies	1,750	Healthcare Benefits-Retirees		9,241
TOTAL	724,587			
		Total Fringe Benefits		57,789
CAPITAL OUTLAY	659,300			
Grants (Matching Share)	0			
		TOTAL	4	252,485
TOTAL APPROPRIATION	1,636,372			

OFFICE OF THE CITY ENGINEER

Joseph V. Link, P E

City Engineer

2005 ANNUAL REPORT

DUTIES AND RESPONSIBILITIES:

The City Engineer shall perform such duties as shall be prescribed with reference to the construction, reconstruction, maintenance and repair of all streets, pavements, sewers, bridges, culverts and other engineering work. He shall prepare plans, specifications, and estimates for all such work undertaken by such city, and shall, whenever required, furnish council, the committees thereof, the mayor, public boards, or heads of departments, with reports, information or estimates on any city engineering work, or on questions submitted by any of them in their official capacity. The City Engineer shall cause to be made all such necessary books, maps and plans as will show the situation and dimensions of each property therein, which books, maps or plans shall be so prepared as to show the city number, and name of the owner or owners thereof.

GOALS: The Mayor established a set of long-term goals for this office beginning in 1994. Current status is reported annually until goal is achieved, then it is dropped from the report.

• 1994 Development of Streetscape Standards

Formalize standards for construction of “Downtown Area” streetscape including sidewalk construction/renovation, planting trees, street lighting and overhead street name signs.

Modification of Goal

The Mayor expanded the scope of this goal to include the purchase of the City streetlighting system and to replace the “cobra head” light fixtures in the downtown district with modern fixtures manufactured in the “turn of the century” styles. Street light poles will be used to carry traffic signals, parking meters and street name signs.

Status (1999)

This office published standard construction details for sidewalk construction with granite curb and brick edge and standard concrete curb. A master plan of the downtown streetlight system was developed and is in use. Purchase of the streetlight system is in negotiation and may lead to financing for replacement of streetlights in the Downtown District.

Status (2000)

This office and the City Bureau of Planning consulted with the Mayor's Millennium Commission, Beautification Subcommittee to prepare a document that catalogued the existing streetscape in the Central Business District and then established standards and materials for the City to adopt for renewals, upgrades and new construction. Materials, products and standards are specified for reconstruction of sidewalks, installation of streetlights, planting of trees and installation of various types of street furniture.

Status (2001)

On June 4, 2001, the City purchased the streetlight system except for the portion of lighting in the Central Business District. That portion was omitted because additional time was needed to determine how to separate the light fixtures from the underground electrical distribution system in the area and the estimated cost was prohibitive. By the end of the year, the decision was made to pursue purchase of the CBD streetlight system with replacement of the fixtures with historic style lighting.

Status (2002)

By Agreement dated 11-1-2001, the Commonwealth provided \$3.1 million to the City for design and construction of a Streetscape project to install streetlights and street trees on streets in the Central Business District (CBD) that border or lead to the Capitol Complex or any street that houses a Commonwealth Office. The City selected a lighting consultant and a landscape consultant to design the project and negotiated a scope of work and design price with them. By letter dated April 10, 2004, the Commonwealth approved the City's plan to commence design and

construction, and the City issued a Notice To Proceed to its consultants. The full scope of the project is expected to cost between \$7million and \$8 million, and the City received a commitment from the Department of Transportation to loan the balance of the funding to the City at approximately one-half of the prime interest rate for a ten-year period. Application for the loan will be submitted as soon as the consultants prepare a detailed cost estimate.

During the last year, the City completed construction of two major streetscape projects. The Capitol Heights Housing project in Midtown included new sidewalks, trees & historic style streetlights. New historic style streetlights and trees were installed under the Capitol Corridors project on several main streets in the Midtown and Allison Hill sections of the City. Both projects are detailed later in this report.

Status (2003)

Options for many component parts of the CBD Streetscape project have been explored and are in current development. Examples include the light fixtures, pole material and design, water features, entry gates into the City, prominent intersections, building highlighting, tree highlighting, tree grate design, and parking meters. A spreadsheet has been developed to incorporate all of the pricing and produce an overall estimate of probable cost. The lighting layout has progressed to include a first pass at integration of parking meters with the light poles.

Status (2004):

Design scope has been finalized based upon costs. The two blocks of State Street between Front Street and Third Street have been split from the remainder of the project and the Department of Transportation has approved a One Million Dollar project request under the Home Town Streets Project.

Status (2005):

Design of CBD Streetscape is complete and awaiting funding, and the project has been divided into phases. Phase I consists of the 100 and 200 blocks of State

Street. Funds were identified from a State source and the Federally funded Transportation Enhancement Program through PENNDOT. Phase I was advertised and awarded. Construction will be completed during the upcoming construction season.

- **1994 Infrastructure Renewal**

Collect existing measurements, construction materials and pavement conditions of City streets for Pavement Evaluation Program.

Status (1998):

Much of the desired information has been collected and is available. This office and others assisted the City Planning Bureau with funding to upgrade the GIS software.

Status (2001)

The City GIS system was significantly improved during the 2001 calendar year with the approval of a line item in the budget in the amount of \$72,000 for GIS Upgrade and System Management by the engineering consulting firm of Skelly & Loy. The existing GIS system was transferred into a more powerful software package to allow more efficient update of various maps and databases. The acquisition of new software has improved accessibility to the system and increased the scope of the City's GIS capabilities. As a result, a GIS website has been created to allow City staff to view, print, and query GIS maps and several important applications for GIS information have been developed. The approved City budget for 2002 includes a line item in the amount of \$100,000 to continue the efforts with Skelly & Loy.

As a pilot program, to demonstrate the functionality of the new software, this office planned and initiated the development of a street-cut management program within the GIS system. The creation of the street-cut system allowed staff to track each street-cut application electronically through the use of a street-cut map and an interactive database. The street-cut system can be accessed via the internet, laptop computer, or the LAN network in the City Government Center. This

program not only allowed staff to track information, but also to have the ability to easily search past permits and generate reports and mailing lists. Much of the “data clean-up” required to create the street-cut management system has laid the groundwork to develop additional computer applications for GIS information. It is anticipated that in 2002 the street-cut program will be expanded to allow applications to be received and paid via the internet.

In conjunction with the purchase of the streetlight system, GIS mapping and databases have been developed to inventory and locate the 5400+ light fixtures now owned and maintained by the City. GIS maps of the streetlight system are used to assist in dispatching for routine and emergency maintenance and to keep maintenance records for each streetlight fixture. In 2002 this system will be further developed to allow for electronic invoicing for maintenance efforts and automatic updates of maintenance records as work is completed.

In addition to funds from the City budget, this office has received and continues to pursue grant money to further the enhancement of the GIS system. In 2001, PA/DEP awarded a grant of \$180,120 to the City to perform a watershed analysis of the Paxton Creek, which included \$32,400 to enter related data onto the GIS. The City is utilizing these funds to update and improve the GIS maps and databases of the sewer system. FEMA awarded a grant of \$60,000 (\$30,000 in 2002 and \$30,000 in 2003) to create new digital flood plain maps for the Paxton Creek, with all data to be entered on the GIS. In 2002 a Dauphin County economic development grant in the amount of \$12,500 will be presented to the City and Steelton Borough to explore the possibility of exchanging, filing, and recording deeds electronically. It is anticipated that deeds could be received electronically from the Recorder of Deeds and routinely added to the City GIS database.

Status (2002):

With a budget of \$100,000 for 2002, the Office of the City Engineer was able to continue the enhancement of the City’s Geographic Information System. This effort was accomplished through an extension of the contract with Skelly & Loy and with a GIS intern, funded by DEP.

The most notable accomplishment of 2002 was the completion of the streetlight maintenance tracking system. This system allows the City to track maintenance activities of subcontractors and automatically populates the GIS database with a maintenance history of each light serviced. This online application gives the City the ability to generate reports on maintenance activities, query the database to identify problem areas in the lighting network, and plan periodic mass re-lamping activities. This functionality allows the City to target maintenance in areas that haven't been serviced recently and avoid replacing newer equipment during mass re-lamping.

Through the use of an intern, funded through a DEP Growing Greener Grant, the entire sewer data layer has been updated and reconstructed. The new GIS layer for the sewer network contains depth and grade information for almost all sewers in the City. This extensive database is being utilized by the Harrisburg Authority as a basis for developing a hydraulic model of the interceptor sewer system.

In 2002 the Office of the City Engineer continued to make improvements to the on-line street cut permit management system. Currently UGI and the Water Bureau are utilizing the online permit system. NRG Energy, Verizon and PPL began utilizing the system in spring 2003. Negotiations are currently underway between the City Webmaster, the Treasury Department and the Commonwealth of Pennsylvania to give the City the ability to accept payments online.

Other significant development on the GIS includes enhancements and updates to the traffic control, centerline, right-of-way, and parcel data layers. This office has also been coordinating with Dauphin County to determine the feasibility of implementing an electronic deed filing system.

Status (2003)

The City, working together with Steelton Borough, received an economic development grant from the Dauphin County Office of Economic Development to explore the possibilities of establishing the real property records on line using the

GIS database and software. The City's consultant worked to gather details and coordinated meetings with the Dauphin County Recorder of Deeds and the Tax Assessor's Office to explore the possibility of coordination and cooperation.

During this year, the street cut program was made available to utility companies and private contractors entirely on line.

Status (2004):

City budget contained \$50,000 to extend the contract with Skelly & Loy to continue to enhance the GIS programs. The streetlight maintenance program was made available on line for both the City and the maintenance contractor. The Official City Traffic Map was updated with traffic control signs and traffic signal information. This map is approximately 75% complete because not all information on street signs is available on the system.

Status (2005):

City budget contained \$50,000 to extend the contract with Skelly & Loy to continue to enhance the GIS programs. Parcel information was added to the database and the County Registrar of Deeds has installed a software program to update property transfers electronically. The City now updates its records via electronic access to the County system.

- **1997 Sewer Replacement**

The goal is to establish a formal program for replacement/reconstruction of City sewer lines.

Status (1999):

This Office began the task of identifying the segments of existing brick sewer that pose a significant possibility of collapse. Funding sources, program estimates and phasing of replacement projects will be presented with budget requests.

- **1997 Stormwater Management**

To gather sufficient data concerning stormwater management problems to assess

the situation and recommend a program and funding source.

Status (1998):

Preliminary information was provided to consultant who has been engaged by The Harrisburg Authority to set up a stormwater utility.

An analysis of Paxton Creek was completed with a matching grant from EPA through CEDA COG to determine whether improvements could be made to the structures at Wildwood Lake to minimize downstream flooding during summer thunderstorms. The analysis pointed out a silt deposit at the confluence of Asylum Run that causes a surcharge in the vicinity of Maclay Street at the Farm Show Complex. There is also a negative slope in the stream bed near the Asylum Run confluence that further compounds the situation with backups and flooding. A funding source is being sought to correct the problems.

Status (1999)

Under a PADEP "Growing Greener" program, the City submitted a request for a grant to analyze the entire Paxton Creek watershed. Storm related problem areas will be identified and solutions will be designed and funded if the grant request is approved and sufficient funds are made available to the City.

Status (2001)

DEP selected the City's second submission for a grant to perform an analysis of the Paxton Creek and awarded a grant in the amount of \$183,120. The City in turn entered into a contract with the environmental consulting firm of Skelly & Loy to perform the analysis.

Status (2001)

Storm water Management-The Paxton Creek Watershed Analysis was initiated by Skelly & Loy after complying with DEP regulations. Field reconnaissance was completed and data collection and verification was started. This office hired a GIS Technician with a portion of the grant funds whose duties and responsibilities are to input the stream data into the computer database.

An additional grant request was submitted based on the initial data gathered. The request is for funds to modify the feeder streambed entrance to Wildwood Lake to direct the initial storm flows from the outfall to the portion of the stream that flows through the City and often causes flash flooding.

A second grant application is for funding to repair portions of the stream bank in the upper reaches of the watershed where significant erosion occurs. Decisions on the two applications will be made in mid 2002.

Status (2002)

Through funding from the PADEP “Growing Greener” program, the City has completed a watershed assessment for the Paxton Creek. This study identified various storm water related problems in Harrisburg and upstream portions of the watershed and made recommendations for specific restoration projects. The City and Skelly & Loy presented a summary of the watershed assessment results to Lower Paxton Township, Susquehanna Township, DEP, Dauphin County Parks & Recreation and PCWEA. Copies of the completed study were distributed to presentation attendees.

PADEP awarded a second grant to the City to design a stream bank restoration project on a portion of Paxton Creek known as Black Run. The purpose of this project is to stabilize a section of stream bank in Paxton Creek and help reduce sediment deposits in Wildwood Lake. The Office of the City Engineer has also submitted an application in the 2004 round of “Growing Greener” funding for a restoration project in the Bellevue Park area.

In summer 2002 work began on the FEMA floodplain-mapping project. The purpose of this project is to create a hydrologic model digitally recreate the 50-year and 100-year FIRM floodplain boundaries. Funding for this project is provided through a \$60,000 grant from FEMA.

Status (2003)

Design of the Black Run restoration and stabilization project was completed during the year and PA DEP concurred that the City should request approval of a grant to fund the restoration project.

Status (2004)

The City applied for a Growing Greener Grant for the installation of the proposed work on Black Run.

New storm water management regulations took effect this year concerning the methods of handling storm water. The City is affected by these rules and is taking steps to comply.

Status (2004)

The City has met all requirements of the new storm water management rules and submitted the first annual report to PA/DEP.

Status (2005)

PA/DEP awarded grants to the City to construct the stream improvement designed earlier for Black Run. DEP also awarded grants to design and implement modifications to the “Morning Glory” outlet in Wildwood Lake and to design a project to redirect the Paxton Creek entrance into Wildwood Lake.

Projects

Capitol Heights-Infrastructure Replacement

Status (1999)

The City awarded a contract to Jay Fulkroad & Sons for \$1,950,957 to replace sewer, water, sidewalks, curbs and streets for the Capitol Heights Housing Development Project. All work is to be completed by Mid-2000, so the housing development company can begin construction. The project covers the area bounded by N. Third Street to N. Fourth Street

and Hamilton Street to Kelker Street. Plans and specifications were prepared by Brinjac-Kambic and Associates, Inc.

Status (2000)

The project was completed in December of 2000 and turned over to the City's housing development contractor. The total construction and design cost is \$2,418,591.00.

Status (2003)

The project continues through 2004, but a major change in philosophy in 2003 allowed the City to turn funding over to the housing development contractor to replace and install the appropriate infrastructure for future phases of the project. This office continues to coordinate with the housing development office to instruct the contractor which utilities and other infrastructure must be replaced or installed.

Status (2004)

Infrastructure upgrades continued through this past year as new housing units were constructed in the project.

Status (2005)

Infrastructure upgrades continued through this past year as new housing units were constructed in the project.

HARRISBURG AREA TRANSPORTATION STUDY GROUP (HATS) APPROVED PROJECTS:

- The **Extension of South Third Street**, renamed **Southern Gateway**, to the south to form a connection with the I-83 entrance/exit ramps and to interconnect with South Second Street and South Front Street was added to the TIP. Environmental Analysis, Preliminary Design and Final Engineering were funded in the amount of \$4,057,500 in the FFY's of 2001, 2003 & 2004.

The engineering Consulting firm of Trans Associates, located in Enola, PA was selected to perform the design of the project. When completed, this project will redefine the transportation system and enhance opportunities for economic development in the south end of the Central Business District.

Status (2002)

During the winter of 2002 the economic evaluation of the City of Harrisburg was completed and report submitted. The objective of the study was to determine future demand and absorption for office space in Harrisburg with a particular focus on class A product for the Central Business District. To assess the demand for office space, the competitive market area was defined, and relevant supply and demand characteristics were examined. A brief review of the competitive hotel market was also conducted to assess, on a preliminary basis, future demand for additional facilities. This information was then utilized in the development of a travel demand-forecasting model.

During the Spring and Summer of 2002 the Southern Gateway Project data collection program was completed. This included completion of turn movement counts at 37 downtown intersections, pedestrian counts at 12 intersections in the core of downtown, and travel time runs along the major corridors. Once completed, existing condition analyses were performed and a draft existing conditions report prepared.

Once the data collection program and the economic evaluation were completed, development of the travel demand-forecasting model began. This included geocoding of the origin and destination information gathered in 2001.

As part of the Southern Gateway Project's on-going community involvement program, a planning workshop was held on Thursday, September 12, 2002 at the Harrisburg Hilton. The intent of the workshop was to gain a better understanding of the community's vision for the study area, which extends from I-83 at the southern end of the city north to Chestnut Street and from the Susquehanna River east to Norfolk Southern\AMTRAK rail lines. The

information obtained from this workshop, plus information gleaned earlier from focus group discussions, formed the basis for the goals and objectives report that was drafted late in 2002.

Status (2003)

Preliminary engineering continued throughout 2004 and public meetings were held as part of the environmental analysis process to solicit public comments and to inform the general public about the project. Three alternative routes were developed and presented to the Department of Transportation and the Federal Highway Administration for review and comment. There appears to be wide acceptance of the project following the public meetings. The general attitude is that the traveling public must have more than one route into and out of the City from the Interstate Highway.

Status (2004)

The Department of Transportation continues to support the Southern Gateway Project and considers this project an adjunct to the Department's I-83 Master Plan for improvements along that corridor.

Status (2005)

The consultant team completed and submitted the Environmental Analysis to PENNDOT and Federal Highway Administration following a public comment period. Attention was then directed to the economic development opportunities in the project area. Approval was given to begin final design.

- The **Widening of Seventh Street** between Reily Street and Maclay Street was also approved and added to the funded area of the TIP in the amount of \$800,000 in FFY's 2001 & 2004 plus an additional \$3,129,000 in the 2005 TIP for construction.

The engineering consulting firm of Buchar-Horn of York, PA was selected to design the project. This four-lane entrance to the City from the north is intended to entice commuters to access the Central Business District along that route rather than use the Front Street-Second

Street one-way corridors. The reduction in traffic volume will allow two-way traffic along Second Street and perhaps Front Street.

Status (2002)

Notice to Proceed was issued April 1, 2002. Field survey, traffic analysis, environmental testing, and environmental documentation are now completed. Preliminary bridge rehab plans, lighting plans, construction plans and right-of-way plans were completed and submitted to PennDOT for review.

- Dauphin County Commissioners provided the 20% local match. A check for \$700,000 was received from the County for this purpose. The fourth project added to the TIP using a combination of State Bridge Funds, Federal Funds and Local Funds is the replacement of the ramp and repair of parapet walls and lighting on the Mulberry Street Bridge. Design was funded at \$181,466.12. The engineering consulting firm of Pennoni Associates, Inc. of Camp Hill, PA was selected to design the project.

Status (2002)

The consultant completed preliminary engineering to the point of submission of the Type, Size & Location submission. PENNDOT Safety Review Committee accepted the consultant's design solution and authorized the City to proceed to final design subject to identification of additional funding. The final design solution requires an expenditure of approximately \$1,300,000, but there is only \$600,000 approved for construction in the TIP.

Status (2003)

Environmental Analysis and preliminary engineering was completed during the year and submitted to the Department of Transportation and Federal Highway Administration for approval.

Status (2004)

PENNDOT approved Final Engineering and Right-Of-Way Acquisition.

Status (2005)

Agreements were finalized and Notice To Proceed issued to consultant team to contact property owners in the project area to enter negotiations to purchase required Right Of Way.

- The **Replacement of Twenty-three Existing Traffic Signals** was approved by HATS in 2002. The \$520,000 needed for design was included on the FFY 2003 TIP and \$2,489,000 of the construction funding is listed in FFY years 2004 through 2006. The design and construction of these signal replacements is 100% federally funded. The twenty-three (23) signal replacements will be designed and constructed in five (5) separate corridors as follows:

Maclay Street Corridor

Maclay & Front
Maclay & Second
Maclay & Third
Maclay & Fourth
Maclay & Sixth

Sixth Street Corridor

Sixth & Division
Sixth & Schuylkill
Sixth & Reily
Sixth & Verbeke
Reily & Third

Market Street Corridor

Market & Seventeenth
Market & Nineteenth
Market & Hale
Twenty-fifth & Rudy Road

Seventeenth Street Corridor

Seventeenth & Brookwood
Seventeenth & Berryhill
Seventeenth & Walnut
Seventeenth & Herr
Seventeenth & SR 0022
Herr & Twentieth

Thirteenth Street Corridor
Thirteenth & Berryhill
Thirteenth & Walnut
Thirteenth & Market

Due to high numbers of signal related accidents, the Maclay Street and Market Street signal corridors will be constructed in FFY years 2004 and 2005. Replacement of the Sixth Street, Seventeenth Street, and Thirteenth Streets signals will follow respectively in FFY years 2006 and 2007.

Status (2003)

The City Traffic Signal Corridors project was awarded to a consulting engineering firm for design and preliminary engineering and environmental analysis were initiated. All corridors are listed on the Harrisburg Transportation Improvement Program (TIP) with full construction funding.

Status (2004)

PENNDOT approved Preliminary Engineering for all corridors and authorized final design and construction for both Maclay Street & Market Street Corridors

Status (2005)

Installation contracts were awarded for both Maclay and Market Street Corridors. Both projects are scheduled to be completed during 2006. 6th Street, 13th Street and 17th Street Corridors were combined into a single installation contract scheduled to be awarded during 2006 and completed during 2007.

- The City submitted several candidate projects to the Department for listing on the 2005 TIP, but only one was selected. The selected project approves the removal of a railroad bridge that is no longer used by the rail freight system over the intersection of Paxton and Cameron Streets. Following removal of the bridge, the intersection will be improved to aid in the free-flow of traffic. Funding for design and construction is authorized in 2006 and 2007.

Status (2005)

PENNDOT entered negotiations with a design consultant to prepare the necessary plans and specs for the intersection improvement.

PROJECT LISTING

Attached are status reports of projects that were in progress or completed during 2005.

REQUESTS FOR CHANGES TO TRAFFIC CONTROL SYSTEM

The staff routinely performs engineering studies in response to requests from citizens for changes to the traffic control system such as installation of stop signs, change of one-way streets and so on. Attached is a listing of the studies performed and changes made during 2005.

Status (2005)

Additional Traffic Control was approved during 2005 as listed in the attached table.